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Notice of Allowability	Applicati n N .	Applicant(s)	
	10/086,030	HILL, ALAN	
	Examiner	Art Unit	
	Davienne Monbleau	2878	

-- The MAILING DATE of this communication appears on th cover sheet with th correspondenc address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 5/12/04.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 27 February 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT AND STATEMENT OF REASONS FOR ALLOWANCE

Response to Amendment

The amendment filed on 5/12/04 has been entered. Claims 1, 8, and 9 have been amended. Claims 10-14 are withdrawn. Claims 1-14 are pending.

Applicant's arguments filed 5/12/04, with respect to Claims 1-9, have been fully considered and are persuasive.

In particular, the Applicant argues on page 6 that the cited prior art of record (*Partlo*) does not teach a combination electrical excitation generator and heat exchanger. *Partlo* teaches in Figure 1 a plasma generator comprising an electrical excitation generator (8) and a heat exchanger (20), but does not teach that said elements are combined together to improve the temperature stability of the plasma generator. Applicant further argues on page 6 that the cited prior art of record (*Partlo*) does not teach applying a high intensity pulsed field to induce ionization and a lower intensity electric field simultaneously. *Partlo* teaches in Figure 1 generating plasma and continually applying pulse to sustain ionization of the plasma, but does not teach simultaneously applying a separate lower electric field to maintain the E/N ratio below a certain level. This feature improves the lasing efficiency.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

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This application is in condition for allowance except for the presence of claims 10-14 to an invention non-elected without traverse. Accordingly, claims 10-14 have been cancelled.

Allowable Subject Matter

Claims 1-9 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding Claims 1-7, the cited prior art of record does not teach or fairly suggest a generator for generating an excited atomic state of a molecule comprising, along with the other claimed features, a combination electrical excitation generator/heat exchanger that prevents gas from heating beyond approximately 200 degrees Celsius, thereby preventing a significant number of said at least one species of molecule from changing said excited atomic state.

Regarding Claims 8 and 9, the cited prior art of record does not teach or fairly suggest a method of generating a plasma (Claim 8) or a method for producing a laser beam (Claim 9) comprising, along with the other claimed features, applying additional electromagnetic field pulses, above an ionization breakdown value of the gas, to sustain quasi-continuous ionization of the gas while simultaneously causing a continuous or quasi-continuous current flow to the gas by applying an additional electric field producing an E/N value in the gas of less than approximately 10 Townsends.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945.

The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Davienne Monbleau
DNM


DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800